

CLAIMS

1. A MOSFET based, high voltage, high current AC electronic relay, comprising:
a MOSFET switching circuit selectively switching between switch conducting and switch isolation;
a transformer coupled to the MOSFET switching circuit, the transformer selectively applying a predetermined voltage to the MOSFET switching circuit which establishes the MOSFET switching circuit in switch conducting.
2. The electronic relay according to claim 1, further including an oscillator connected to the transformer.
3. The electronic relay according to claim 1, wherein the MOSFET switching circuit includes first and second power MOSFETs and a depletion mode MOSFET electrically connected to the transformer for selectively establishing switch conducting upon application of a predetermined voltage by the transformer.
4. The electronic relay according to claim 3, wherein the depletion mode MOSFET is connected between gates and sources of the respective first and second power MOSFETs.
5. The electronic relay according to claim 4, further including a small signal MOSFET connected between gates and sources of the respective first and second power MOSFETs

6. A switching assembly for use in an AC power control system, comprising:
 - a first MOSFET switching circuit and a second MOSFET switching circuit electrically connected between a first terminal and a second terminal, an electrical conducting member positioned between the first MOSFET switching circuit and the second MOSFET switching circuit;
 - a third MOSFET switching circuit electrically connected between the electrical conducting member and ground;
 - each of the first, second and third MOSFET switching circuits including first and second power MOSFETs and a depletion mode MOSFET.
7. The electronic relay according to claim 6, wherein the depletion mode MOSFET is connected between gates and sources of the respective first and second power MOSFETs.
8. The switching assembly according to claim 6, further including a fourth MOSFET switching circuit electrically connected between the electrical conducting member and a third terminal, wherein the fourth MOSFET switching circuit includes first and second power MOSFETs and a depletion mode MOSFET.
9. A MOSFET switching circuit for use in a power control system, comprising:
 - a first power MOSFET;
 - a second power MOSFET; and
 - a depletion mode MOSFET.

10. The switching circuit according to claim 9, wherein the depletion mode MOSFET is connected between gates and sources of the respective first and second power MOSFETs.
11. The switching circuit according to claim 9, further including a first resistor coupled to the first and second power MOSFETs, wherein the first resistor is sized to prohibit low resistance of the depletion mode MOSFET from saturating a transformer arrangement powering the switching circuit.
12. The switching circuit according to claim 9, wherein a second resistor is coupled to the depletion mode MOSFET for quickly dissipating charge on a gate of the depletion mode MOSFET.
13. The switching circuit according to claim 9, further including at least one capacitor adding stability by altering charge producing significant voltage.
14. The switching circuit according to claim 9, further including a small signal MOSFET connected between gates and sources of the respective first and second power MOSFETs.
15. The switching circuit according to claim 9, consisting essential of a first power MOSFET, a second power MOSFET and a depletion mode MOSFET.
16. The switching circuit according to claim 15, wherein the depletion mode MOSFET is connected between gates and sources of the respective first and second power MOSFETs.

17. The switching circuit according to claim 15, further including a first resistor coupled to the first and second power MOSFETs, wherein the first resistor is sized to prohibit low resistance of the depletion mode MOSFET from saturating a transformer arrangement powering the switching circuit.
18. The switching circuit according to claim 15, wherein a second resistor is coupled to the depletion mode MOSFET for quickly dissipating charge on a gate of the depletion mode MOSFET.
19. The switching circuit according to claim 15, further including at least one capacitor adding stability by altering charge producing significant voltage.